From:	Zartarian, Valerie
Sent:	Tuesday, February 26, 2013 5:32 AM
To:	Schumaker, Nathan
Cc:	Gwinn, Maureen; Geller, Andrew; Ozretich, Robert; Tong-Argao, Sania; Diaz-Sanchez, David
Subject:	RE: zoonotic disease modeling in SHC

Nathan,

Thanks for the additional info. First, let me give you the correct website to C-FERST beta version: http://cfpub.epa.gov/cferst

I still think this research could add value to the SHC/CPH project in Theme 2 and linkages with Theme 1, eg "exploring a new application of HexSim with the goal of showing how human activities might have an impact on the rate and patterns of spread of zoonotic diseases" and also impacts from climate change as you indicated.

The model sounds very sophisticated, but if it can be tailored to conduct "what-if" scenarios for climate change and other factors for public health issues such as lyme disease, the outputs could be displayed in C-FERST. Are there specific case studies that could be considered if funding were available?

If you agree, I will bring this up in the 2.2.1 portfolio review discussion next week as a potential tool for community public health and linkages to CPH decision support tools in 2.2.1.5 as well as eco research in Theme 1. SHC is looking for cross-cutting research across themes and how to better execute that in practice going forward.

Valerie

From: Schumaker, Nathan
Sent: Monday, February 25, 2013 8:27 PM
To: Zartarian, Valerie; Ozretich, Robert; Tong-Argao, Sania; Diaz-Sanchez, David
Cc: Gwinn, Maureen; Geller, Andrew
Subject: RE: zoonotic disease modeling in SHC

Hi Valerie and others,

I never did schedule the webinar because I was unable to get the Lotus Notes calendar to function correctly. I tried to get help from my IT person here, but he said he'd never been able to use it successfully either...

Based on my limited understanding of Cferst, I don't think a HexSim / Cferst linkage makes sense at this stage of development. I was not able to get to the Cferst website that you sent a link to (the top one -- I get a page missing error), but as I recall from looking at it previously,

its a web site with links to models, databases, white papers, etc. HexSim is a pretty complex stand-alone simulation modeling environment, and it takes a fair bit of expertise to become facile with the tool. Here, we'd be exploring a new application of HexSim with the goal of showing how human activities might have an impact on the rate and patterns of spread of zoonotic diseases. We definitely would not connect Cferst to HexSim, and I think it'd be a while before HexSim zoonotic disease findings were ready to plug into a Cferst database.

HexSim is a spatially-explicit, individual-based, trait-stratified life history simulator that you can use to conduct population viability analyses, help design recovery plans, better understand how to design management and mitigation strategies, etc. Its designed to work with a large range of terrestrial life histories (birds, mammals, reptiles, amphibians, etc), and we're presently working on fish and plant extensions. The model has a sophisticated genetics toolkit and is probably the first tool to link demography and genetics in a spatially-explicit context. We developed the model principally to look at the impact of multiple interacting stressors on wildlife population dynamics, and for EPA are concerned in particular with pesticide interactions with other disturbance regimes. But the model will be ideal for looking at disease spread, climate change, conservation genetics, and a range of other topics such as quantifying landscape connectivity. HexSim is fully covered by a modern GUI, has a large user's guide, worked examples, etc. but it still has a steep learning curve.

I'm interested in the disease applications, and they seemed to me like a good approach for linking the ecology and human health disciplines in the context of SHC research. I appreciate everyone's efforts to keep me in the game (thanks in particular, Valerie and Andrew). But I think SHC is a difficult home for this work because the themes suffer from the same old silo problem that the Path Forward was supposed to resolve. There is no single theme that my work would fit squarely into. Perhaps HexSim zoonotic disease modeling would cut across themes 1 and 2, but that doesn't seem to be possible to execute in practice. I have received zero extramural dollars since the start of the Path Forward. I'm losing my contract computer scientist, and can only accomplish what I can do by myself in a ~50 hour week. I'm on 3 tasks, so this is all a big challenge. Maybe the best thing for me to do is pursue external collaborations in my free time, and see if some illustrative manuscripts can emerge...

Sorry for the rushed response... I'm running out the door.

Nathan Schumaker
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From: Zartarian, Valerie
Sent: Monday, February 25, 2013 2:32 PM
To: Ozretich, Robert; Tong-Argao, Sania; Schumaker, Nathan; Diaz-Sanchez, David
Cc: Diaz-Sanchez, David; Gwinn, Maureen; Geller, Andrew
Subject: zoonotic disease modeling in SHC

Hi all,

There were previous discussions among myself, former co-PL Andrew Geller, Nathan, and Nathan's management about the best home for this work in SHC, with a number of implementation/application-related questions raised. As I recall, we left it that Nathan was going to set up a webinar to demonstrate HexSim so we could better discuss how it could potentially link with C/T-FERST in Task 2.2.1.5 (originally I believe it was in 2.2.1.2).

I don't think that follow-up webinar discussion took place, and my understanding subsequently was that this work was moved to SHC Theme 1. Seems it may have gotten lost in the RMS shuffle, but there was interest in considering Nathan's zoonotic disease modeling research w.r.t. eco-hh integration and SHC decision support tools.

This issue is something I could raise in the Task review as part of the SHC 2.2.1 portfolio review (Community Public Health Project) on 3/7. Is there any updated info on HexSim that would help us further explore how it could connect in practice with C/T-FERST and eco-hh integration for community public health applications? Do you think a webinar demo before 3/7 be possible and helpful for the research portfolio review?

FYI here is the link to C-FERST: http://cfpub.epa.gov/heasd/cferst (userid=CFERST, passwd=CFERST1)
Website with more info: http://www.epa.gov/heasd/c-ferst (the tribal version T-FERST is currently very similar)

Could HexSim model outputs be mapped at the community level and incorporated into the C/T-FERST maps module? Are there fact sheets on zoonotic diseases or other info sources that you recommend including in the tool?

Please let me know if you have other suggestions or questions.

Thanks,
Valerie

From: Ozretich, Robert
Sent: Wednesday, February 20, 2013 7:10 PM
To: Tong-Argao, Sania; Zartarian, Valerie
Cc: Schumaker, Nathan
Subject: FW: Fw: SHC Task 2.2.1.5 lead by Valerie Zartarian----QAPP DCN?

Sania and Valerie,

Here is what Nathan has to say about his role in this task…..

From: Schumaker, Nathan
Sent: Friday, February 15, 2013 10:47 AM
To: Ozretich, Robert
Subject: Re: Fw: SHC Task 2.2.1.5 lead by Valerie Zartarian----QAPP DCN?

Hi Bob,

I looked at the RMS entry below, and there's only a passing reference to HexSim. I think this task was a poor choice of home for my work, but I have no idea who forced the fit, and had zero control over it. Its too bad, since there's real potential to use the zoonotic disease topic to forge an Eco -

Human Health link.

I'm attaching the task description I wrote up.

My work will never connect to C/TFERST, the project management has no interest in zoonotic disease (regardless of its being a hot topic lately), and there will never be any support for my work. Maybe I should just request to leave the project... I don't know...

-----Robert Ozretich/COR/USEPA/US wrote: -----
To: Nathan Schumaker/COR/USEPA/US@EPA
From: Robert Ozretich/COR/USEPA/US
Date: 02/15/2013 09:07AM
Subject: Fw: SHC Task 2.2.1.5 lead by Valerie Zartarian----QAPP DCN?

Nathan,

I'm thinking about your e-mail about multiple QAPPs or a single one....in the mean time:

Can you address (to me) Sania's question at the end of her e-mail regarding your contribution to C-/T-FERST....suggest you might refresh your memory about this SHC task by going to (http://v26265ncay506.aa.ad.epa.gov/rms/RMSSummaryData.cfm? TaskID=686) within the Research Management System for the Path Forward.

Thank you.

Bob

Robert J. Ozretich, PhD
Quality Assurance Manager/Records Management Contact
U.S. Environmental Protection Agency
200 SW 35th
Corvallis, OR 97333
541-754-4670 fax: -4799
----- Forwarded by Robert Ozretich/COR/USEPA/US on 02/15/2013 09:00 AM -----

From: Sania Tong-Argao/RTP/USEPA/US
To: Robert Ozretich/COR/USEPA/US@EPA
Cc: Valerie Zartarian/R1/USEPA/US@EPA, Bruce Mintz/RTP/USEPA/US@EPA, Shannon O'Shea/RTP/USEPA/US@EPA
Date: 02/15/2013 08:52 AM
Subject: Re: SHC Task 2.2.1.5 lead by Valerie Zartarian----QAPP DCN?

Hello Bob,

Since Valerie is out of the office until 2/25 and Bruce is also not in the office today, I needed to do a little bit of searching around as I am not familiar with projects by their specific task numbers. Thanks to Shannon who reminded me about the Research Management System (SHC Task 2.2.1.5 - http://v26265ncay506.aa.ad.epa.gov/rms/RMSSummaryData.cfm?TaskID=686) and helped me to confirm what this particular task is about.

Valerie, Bruce, and Shannon have been working on updating the original Alion QAPP (developed as a level 3 QAPP for C-FERST in 2009 and is attached) so there is not a final QAPP yet to my knowledge. The Alion QAPP needs to be updated to reflect the latest version of the tool, which has evolved a lot over the past few years, and also to include the related Tribal-FERST tool.

(See attached file: QAPP-LAS-09-03 C-FERST WA 4-04.pdf)

Since the new QAPP has not been finalized yet, I am unaware of a title to provide at this time although I imagine it would be similar to the original one but would incorporate Tribal-FERST as well. **Valerie or Bruce**, can you please provide Bob with any updated information?

On another note, would you mind providing a little bit of information on what piece Nathan is working on? Is he writing a QAPP for research that will feed into C-/T-FERST?

Thanks,
Sania
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Sania W. Tong Argao
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Robert Ozretich---02/14/2013 05:26:51 PM---Sania, Nathan Schumaker, a PI on this task, is in the process of writing a QAPP for his piece.

From: Robert Ozretich/COR/USEPA/US
To: Sania Tong-Argao/RTP/USEPA/US@EPA
Cc: Valerie Zartarian/R1/USEPA/US@EPA
Date: 02/14/2013 05:26 PM
Subject: SHC Task 2.2.1.5 lead by Valerie Zartarian----QAPP DCN?

Sania,

Nathan Schumaker, a PI on this task, is in the process of writing a QAPP for his piece.

We need the DCN number of the QAPP for this SHC Task to refer to from within his QA document.

Would you pass the number on to me so that his document can be finalized.

Thank you.

Bob

Robert J. Ozretich, PhD
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Corvallis, OR 97333
541-754-4670 fax: -4799

[attachment "QAPP-LAS-09-03 C-FERST WA 4-04.pdf" removed by Nathan Schumaker/COR/USEPA/US]